

25 AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings of claims in the application:

LISTING OF CLAIMS:

1-24. (canceled)

25. (new) A negative-resistance circuit having a transistor and distributed constant lines respectively connected to three terminals thereof, said negative-resistance circuit characterized by comprising:

an inductance element connected between an output terminal of said negative-resistance circuit and a ground potential for adjusting a negative resistance value; and

a plurality of distributed constant lines connected in parallel to at least one of the three terminals of said transistor.

40 26. (new) The negative-resistance circuit according to claim 25, wherein:

45 said inductance element comprises a distributed constant line shorter than one-quarter wavelength at a desired frequency for connecting between a signal conductor and the ground potential.

27. (new) The negative-resistance circuit according to claim 25, wherein:

50 said distributed constant line is a coplanar
type one composed of a signal conductor and ground
conductors disposed to sandwich said signal conductor
with predetermined gaps therebetween, and

55 said inductance element comprises a conductor
piece which traverses only one of said gaps to connect
said signal conductor with said ground conductor.

28. (new) A negative-resistance circuit having a
transistor and distributed constant lines respectively
connected to three terminals thereof, said negative-
60 resistance circuit characterized by comprising:

 a capacitance element connected between an
output terminal of said negative-resistance circuit and
a ground potential for adjusting a negative resistance
value,

65 a plurality of distributed constant lines
connected in parallel to at least one of the three
terminals of said transistor.

29. (new) The negative-resistance circuit according to
70 claim 28, wherein:

 said capacitance element comprises a
distributed constant line which is branched from a
signal conductor, has an opened leading end, and is
shorter than one-quarter wavelength at a desired
75 frequency.

30. (new) The negative-resistance circuit according to
claim 28, wherein:

80 said distributed constant line is a coplanar
type one composed of a signal conductor and ground
conductors disposed to sandwich said signal conductor
with predetermined gaps therebetween, and

85 said capacitance element comprises a conductor
piece which is branched from said signal conductor and
has an opened leading end.

90 31. (new) A negative-resistance circuit having a
transistor and distributed constant lines respectively
connected to three terminals thereof, said negative-
resistance circuit characterized in that:

 a plurality of distributed constant lines are
connected in parallel to at least one of the three
terminals of said transistor.

95 32. (new) The negative-resistance circuit according to
claim 25, wherein:

100 one of said plurality of distributed constant
lines connected in parallel is a distributed constant
line which is longer than one-quarter wavelength and
shorter than one-half wavelength at a desired frequency,
and has a leading end connected to a ground potential.

33. (new) The negative-resistance circuit according to claim 25, wherein:

one of said plurality of distributed constant lines connected in parallel is a distributed constant line which is shorter than one-quarter wavelength at a desired frequency, and has an opened leading end, and

the remaining distributed constant lines are distributed constant lines each having a leading end short-circuited to a ground potential.

34. (new) The negative-resistance circuit according to claim 28, wherein:

one of said plurality of distributed constant lines connected in parallel is a distributed constant line which is longer than one-quarter wavelength and shorter than one-half wavelength at a desired frequency, and has a leading end connected to a ground potential.

35. (new) The negative-resistance circuit according to claim 28, wherein:

one of said plurality of distributed constant lines connected in parallel is a distributed constant line which is shorter than one-quarter wavelength at a desired frequency, and has an opened leading end, and

the remaining distributed constant lines are distributed constant lines each having a leading end short-circuited to a ground potential.

36. (new) The negative-resistance circuit according to claim 31, wherein:

one of said plurality of distributed constant lines connected in parallel is a distributed constant line which is longer than one-quarter wavelength and shorter than one-half

wavelength at a desired frequency, and has a leading end connected to a ground potential.

37. (new) The negative-resistance circuit according to claim 31, wherein:

one of said plurality of distributed constant lines connected in parallel is a distributed constant line which is shorter than one-quarter wavelength at a desired frequency, and has an opened leading end, and

the remaining distributed constant lines are distributed constant lines each having a leading end short-circuited to a ground potential.

38. (new) The negative-resistance circuit according to claim 25, wherein:

said transistor is a field effect transistor, and

said terminal to which said plurality of distributed constant lines are connected in parallel is a source of said field effect transistor.

39. (new) The negative-resistance circuit according to claim 28, wherein:

said transistor is a field effect transistor, and

said terminal to which said plurality of distributed constant lines are connected in parallel is a source of said field effect transistor.

40. (new) The negative-resistance circuit according to claim 31, wherein:

said transistor is a field effect transistor, and

said terminal to which said plurality of distributed constant lines are connected in parallel is a source of said field effect transistor.

41. (new) The negative-resistance circuit according to claim 38, wherein:

an output terminal of said negative-resistance circuit is disposed through a distributed constant line connected to a gate of said field effect transistor, wherein:

said negative-resistance circuit comprises:

a bias power source for supplying said gate with a predetermined DC voltage; and

a resistor connected between said bias power source and said distributed constant line connected to said gate.

42. (new) The negative-resistance circuit according to claim 39, wherein:

an output terminal of said negative-resistance circuit is disposed through a distributed constant line connected to a gate of said field effect transistor, wherein:

said negative-resistance circuit comprises:

a bias power source for supplying said gate with a predetermined DC voltage; and

a resistor connected between said bias power source and said distributed constant line connected to said gate.

43. (new) The negative-resistance circuit according to claim 40, wherein:

an output terminal of said negative-resistance circuit is disposed through a distributed constant line connected to a gate of said field effect transistor, wherein:

said negative-resistance circuit comprises:

a bias power source for supplying said gate with a predetermined DC voltage; and

a resistor connected between said bias power source and said distributed constant line connected to said gate.

44. (new) An active filter comprising:

the negative-resistance circuit according to claim
25; and

a resonator connected in series with said negative-
resistance circuit.

45. (new) An active filter comprising:

the negative-resistance circuit according to claim
28; and

a resonator connected in series with said negative-
resistance circuit.

46. (new) An active filter comprising:

the negative-resistance circuit according to claim
31; and

a resonator connected in series with said negative-
resistance circuit.